NOTICE OF REVISION (NOR)

THIS REVISION DESCRIBED BELOW HAS BEEN AUTHORIZED FOR THE DOCUMENT LISTED.

1. DATE *(YYMMDD)*
92-06-18

2. PROCURING ACTIVITY NO.

3. DODAAC

4. ORIGINATOR

a. TYPED NAME *(First, Middle Initial, Last)*

b. ADDRESS *(Street, City, State, Zip Code)*
Defense Electronics Supply Center
Dayton, Ohio 45444-5277

5. CAGE CODE
67268

6. NOR NO.
5962-R225-92

7. CAGE CODE
67268

8. DOCUMENT NO.
5962-89535

9. TITLE OF DOCUMENT
MICROCIRCUIT, Digital, Bipolar, Advanced Schottky, Octal Bidirectional Transceiver with 8-Bit Parity Generator/Checker and Three-State Outputs, Monolithic Silicon.

10. REVISION LETTER

a. CURRENT	b. NEW
A	B

11. ECP NO.

No registered users

12. CONFIGURATION ITEM (OR SYSTEM) TO WHICH ECP APPLIES
All

13. DESCRIPTION OF REVISION

Sheet 1: Revisions ltr column; add "B".
  Revisions description column; add "Changes in accordance with
  NOR 5962-R225-92".
  Revisions date column; add "92-06-18".

Sheet 9: Replace figure 1 as follows: - continued on next page.

14. THIS SECTION FOR GOVERNMENT USE ONLY

a. *(X one)*		
	X	(1) Existing document supplemented by the NOR may be used in manufacture.
		(2) Revised document must be received before manufacturer may incorporate this change.
		(3) Custodian of master document shall make above revision and furnish revised document.

b. ACTIVITY AUTHORIZED TO APPROVE CHANGE FOR GOVERNMENT

DESC-ECC

c. TYPED NAME *(First, Middle Initial, Last)*

Tim Noh

d. TITLE

Chief, Microelectronics Branch

e. SIGNATURE
Tim Noh

f. DATE SIGNED *(YYMMDD)*
92-06-18

15a. ACTIVITY ACCOMPLISHING REVISION

DESC-ECC

b. REVISION COMPLETED *(Signature)*

Larry T. Gauder

c. DATE SIGNED *(YYMMDD)*
92-06-18

DD Form 1695, JUL 88   Previous editions are obsolete.

Case outlines	K and L	3
Terminal number	Terminal symbol	
1	$T/\overline{R}$	NC
2	A_0	A_5
3	A_1	A_6
4	A_2	A_7
5	A_3	ODD/$\overline{EVEN}$
6	A_4	$\overline{ERROR}$
7	V_{CC}	PARITY
8	A_5	NC
9	A_6	B_7
10	A_7	B_6
11	ODD/$\overline{EVEN}$	B_5
12	$\overline{ERROR}$	B_4
13	PARITY	GND
14	B_7	GND
15	B_6	NC
16	B_5	B_3
17	B_4	B_2
18	GND	B_1
19	GND	B_0
20	B_3	$\overline{OE}$
21	B_2	$T/\overline{R}$
22	B_1	NC
23	B_0	A_0
24	$\overline{OE}$	A_1
25	---	A_2
26	---	A_3
27	---	A_4
28	---	V_{CC}

NC = No connection

REVISIONS			
LTR	DESCRIPTION	DATE (YR-MO-DA)	APPROVED
A	Technical changes to figures 1, 2, 3, and table I. Deleted vendor CAGE number 27014 from 5962-8953501KX and added to 5962-8953501LX. Editorial changes throughout.	1990 NOV 6	W. Heckman

REV																	
PAGE																	
REV																	
PAGE																	
REV STATUS OF PAGE		REV	A	A	A	A	A	A	A	A	A	A	A	A	A	A
		PAGE	1	2	3	4	5	6	7	8	9	10	11	12	13	14

PMIC N/A	PREPARED BY Larry T. Gauder	DEFENSE ELECTRONICS SUPPLY CENTER DAYTON, OHIO 45444		
STANDARDIZED MILITARY DRAWING THIS DRAWING IS AVAILABLE FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE AMSC N/A	CHECKED BY Tim H. Noh	**TITLE:** MICROCIRCUITS, DIGITAL, BIPOLAR, ADVANCED SCHOTTKY, OCTAL BIDIRECTIONAL TRANSCEIVER WITH 8-BIT PARITY GENERATOR/CHECKER AND THREE -STATE OUTPUTS, MONOLITHIC SILICON		
	APPROVED BY William K. Heckman			
	DRAWING APPROVAL DATE 12 SEPTEMBER 1989			
	REV A	SIZE A	CAGE CODE **67268**	5962-89535
		PAGE 1 OF 14		

5962-E1736

DESC FORM 193
  SEP 87

1. SCOPE

1.1 <u>Scope</u>. This drawing describes device requirements for class B microcircuits in accordance with 1.2.1 of MIL-STD-883, "Provisions for the use of MIL-STD-883 in conjunction with compliant non-JAN devices".

1.2 <u>Part number</u>. The complete part number shall be as shown in the following example:

5962-89535	01	K	X
Drawing number (1.2.1)	Device type (1.2.2)	Case outline	Lead finish per MIL-M-38510

1.2.1 <u>Device type</u>. The device type shall identify the circuit function as follows:

Device type	Generic number	Circuit function
01	54F657	Octal bidirectional transceiver with 8-bit parity generator/checker and three state outputs

1.2.2 <u>Case outline</u>. The case outline shall be as designated in appendix C of MIL-M-38510, and as follows:

Outline letter	Case outline
K	F-6 (24-lead, .640" x .420" x .090"), flat package
L	D-9 (24-lead, 1.280" x .310" x .200"), dual-in-line package
3	C-4 (28-terminal, .460" x .460" x .100"), square chip carrier package

1.3 <u>Absolute maximum ratings</u>. 1/

Supply voltage range -	-0.5 V dc minimum to +7.0 V dc maximum
DC input voltage range -	-0.5 V dc minimum to +7.0 V dc maximum
DC input current range -	-30 mA minimum to +5.0 mA maximum
Voltage applied to output in high output state - - - - - - -	-0.5 V dc to +5.5 V
Current applied to output in low output state:	
A_0 - A_7 -	40 mA
B_0 - B_7, PARITY, ERROR - - - - - - - - - - - - - - - -	96 mA
Storage temperature range - - - - - - - - - - - - - - - - -	-65°C to +150°C
Maximum power dissipation (P_D) 2/ - - - - - - - - - - - - -	1.15 W
Lead temperature (soldering, 10 seconds) - - - - - - - -	+260°C
Thermal resistance, junction-to-case (Θ_{JC}) - - - - - - - -	See MIL-M-38510, appendix C
Junction temperature (T_J) - - - - - - - - - - - - - - - - -	+175°C

1.4 <u>Recommended operating conditions</u>.

Supply voltage range (V_{CC}) - - - - - - - - - - - - - - - -	+4.5 V dc to +5.5 V dc
Maximum input clamp current (I_{IC}) - - - - - - - - - - - -	-18 mA
Minimum high level input voltage (V_{IH}) - - - - - - - - - -	2.0 V dc
Maximum low level input voltage (V_{IL}) - - - - - - - - - -	0.8 V dc
Case operating temperature range (T_C) - - - - - - - - - -	-55°C to +125°C

1/ Unless otherwise specified, all voltages are referenced to ground.
2/ Must withstand the added P_D due to short-circuit test, e.g., I_{OS}.

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2. APPLICABLE DOCUMENTS

2.1 <u>Government specification, standard, and bulletin</u>. Unless otherwise specified, the following specification, standard, and bulletin of the issue listed in that issue of the Department of Defense Index of Specifications and Standards specified in the solicitation, form a part of this drawing to the extent specified herein.

SPECIFICATION

    MILITARY

        MIL-M-38510   -   Microcircuits, General Specification for

STANDARD

    MILITARY

        MIL-STD-883   -   Test Methods and Procedures for Microelectronics

BULLETIN

    MILITARY

        MIL-BUL-103   -   List of Standardized Military drawings (SMD's).

(Copies of the specification, standard, and bulletin required by manufacturers in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting activity.)

2.2 <u>Order of precedence</u>. In the event of a conflict between the text of this drawing and the references cited herein, the text of this drawing shall take precedence.

3. REQUIREMENTS

3.1 <u>Item requirements</u>. The individual item requirements shall be in accordance with 1.2.1 of MIL-STD-883, "Provisions for the use of MIL-STD-883 in conjunction with compliant non-JAN devices" and as specified herein.

3.2 <u>Design, construction, and physical dimensions</u>. The design, construction, and physical dimensions shall be as specified in MIL-M-38510 and herein.

3.2.1 <u>Terminal connections</u>. The terminal connections shall be as specified on figure 1.

3.2.2 <u>Truth table</u>. The truth table shall be as specified on figure 2.

3.2.3 <u>Test circuit and switching waveforms</u>. The test circuit and switching waveforms shall be as specified on figure 3.

3.2.4 <u>Case outline(s)</u>. The case outline(s) shall be in accordance with 1.2.2 herein.

3.3 <u>Electrical performance characteristics</u>. Unless otherwise specified herein, the electrical performance characteristics are as specified in table I and shall apply over the full case operating temperature range.

3.4 <u>Electrical test requirements</u>. The electrical test requirements shall be the subgroups specified in table II. The electrical tests for each subgroup are described in table I.

3.5 <u>Marking</u>. Marking shall be in accordance with MIL-STD-883 (see 3.1 herein). The part shall be marked with the PIN listed in 1.2 herein. In addition, the manufacturer's PART NUMBER may also be marked as listed in MIL-BUL-103 (see 6.6 herein).

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3.6 <u>Certificate of compliance</u>. A certificate of compliance shall be required from a manufacturer in order to be listed as an approved source of supply in MIL-BUL-103 (see 6.6 herein). The certificate of compliance submitted to DESC-ECC prior to listing as an approved source of supply shall affirm that the manufacturer's product meets the requirements of MIL-STD-883 (see 3.1 herein) and the requirements herein.

3.7 <u>Certificate of conformance</u>. A certificate of conformance as required in MIL-STD-883 (see 3.1 herein) shall be provided with each lot of microcircuits delivered to this drawing.

3.8 <u>Notification of change</u>. Notification of change to DESC-ECC shall be required in accordance with MIL-STD-883 (see 3.1 herein).

3.9 <u>Verification and review</u>. DESC, DESC's agent, and the acquiring activity retain the option to review the manufacturer's facility and applicable required documentation. Offshore documentation shall be made available onshore at the option of the reviewer.

4. QUALITY ASSURANCE PROVISIONS

4.1 <u>Sampling and inspection</u>. Sampling and inspection procedures shall be in accordance with section 4 of MIL-M-38510 to the extent specified in MIL-STD-883 (see 3.1 herein).

4.2 <u>Screening</u>. Screening shall be in accordance with method 5004 of MIL-STD-883, and shall be conducted on all devices prior to quality conformance inspection. The following additional criteria shall apply:

    a. Burn-in test, method 1015 of MIL-STD-883.

        (1) Test condition A, B, C, or D using the circuit submitted with the certificate of compliance (see 3.6 herein).

        (2) $T_A = +125°C$, minimum.

    b. Interim and final electrical test parameters shall be as specified in table II herein, except interim electrical parameter tests prior to burn-in are optional at the discretion of the manufacturer.

4.3 <u>Quality conformance inspection</u>. Quality conformance inspection shall be in accordance with method 5005 of MIL-STD-883 including groups A, B, C, and D inspections. The following additional criteria shall apply.

4.3.1 <u>Group A inspection</u>.

    a. Tests shall be as specified in table II herein.

    b. Subgroups 4, 5, and 6 in table I, method 5005 of MIL-STD-883 shall be omitted.

    c. Subgroups 7 and 8 tests shall include verification of the truth table.

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TABLE I. <u>Electrical performance characteristics</u>.

Test		Symbol	Conditions -55°C ≤ T_C ≤+125°C unless otherwise specified		Group A subgroups	Limits		Unit
						Min	Max	
High level output	All outputs	V_{OH}	V_{CC} = 4.5 V, V_{IL} = 0.8 V, V_{IH} = 2.0 V	I_{OH} = -2.0 mA	1, 2, 3	2.4		V
				I_{OH} = -1.0 mA		2.5		
	B_0 - B_7, PARITY, $\overline{ERROR}$			I_{OH} = -12 mA		2.0		
Low level output voltage	A_0 - A_7	V_{OL}	V_{CC} = 4.5 V, V_{IL} = 0.8 V, V_{IH} = 2.0 V	I_{OH} = 20 mA	1, 2, 3		0.50	V
	B_0 - B_7, PARITY, $\overline{ERROR}$			I_{OH} = 48 mA			0.55	
Input clamp voltage		V_{IK}	V_{CC} = 4.5 V, I_{IK} = -18 mA		1, 2, 3		-1.2	V
High level input current	EVEN/$\overline{ODD}$	I_{IH}	V_{CC} = 5.5 V	V_{IN} = 2.7 V	1, 2, 3		20	µA
	T/$\overline{R}$, $\overline{OE}$						40	
	A_0 - A_7			V_{IN} = 5.5 V			2.0	mA
	B_0 - B_7						1.0	
	T/$\overline{R}$, $\overline{OE}$, EVEN/$\overline{ODD}$		V_{CC} = 0.0 V	V_{IN} = 7.0 V			100	µA
Low level input current	EVEN/$\overline{ODD}$	I_{IL}	V_{CC} = 5.5 V, V_{IN} = 0.5 V		1, 2, 3		-20	µA
	T/$\overline{R}$, $\overline{OE}$						-40	

See footnotes at end of table.

STANDARDIZED MILITARY DRAWING DEFENSE ELECTRONICS SUPPLY CENTER DAYTON, OHIO 45444	SIZE **A**		5962-89535
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TABLE I. Electrical performance characteristics - Continued.

Test		Symbol	Conditions -55°C $\leq T_C \leq$ +125°C unless otherwise specified		Group A subgroups	Limits		Unit
						Min	Max	
Off-state output high current	A_0 - A_7	I_{OZH}	V_{CC} = 5.5 V, V_{IH} = 2.0 V, V_{OUT} = 2.7 V		1, 2, 3		100	µA
	B_0 - B_7, PARITY						70	
	$\overline{ERROR}$						50	
Off-state output low current	A_0 - A_7	I_{OZL}	V_{CC} = 5.5 V, V_{IH} = 2.0 V, V_{OUT} = 0.5 V		1, 2, 3		-100	µA
	B_0 - B_7, PARITY						-70	
	$\overline{ERROR}$						-50	
Output short-circuit current	A_0 - A_7	I_{OS}	V_{CC} = 5.5 V 1/		1, 2, 3	-60	-150	mA
	B_0 - B_7					-100	-225	
Supply current		I_{CCH}	V_{CC} = 5.5 V		1, 2, 3		125	mA
		I_{CCL}					150	
		I_{CCZ}					145	
Functional testing			See 4.3.1c		7,8			
Propagation delay time, A_n to B_n, B_n to A_n		t_{PLH1}	C_L = 50 pF, R_L = 500Ω, See figure 3	V_{CC} = 5.0 V	9	2.5	8.0	ns
				V_{CC} = 4.5 V to 5.5 V	10,11	2.5	9.5	

See footnotes at end of table.

TABLE I. <u>Electrical performance characteristics</u> - Continued.

Test	Symbol	Conditions -55°C $\leq T_C \leq$ +125°C unless otherwise specified		Group A subgroups	Limits		Unit
					Min	Max	
Propagation delay time, A_n to B_n, B_n to A_n	t_{PHL1}	C_L = 50 pF, R_L = 500Ω, See figure 3	V_{CC} = 5.0 V	9	3.0	7.5	ns
			V_{CC} = 4.5 V to 5.5 V	10,11	3.0	8.5	
Propagation delay time, A_n to PARITY	t_{PLH2}		V_{CC} = 5.0 V	9	6.5	14.5	ns
			V_{CC} = 4.5 V to 5.5 V	10,11	5.5	18.0	
	t_{PHL2}		V_{CC} = 5.0 V	9	6.5	15.5	
			V_{CC} = 4.5 V to 5.5 V	10,11	5.5	20.5	
Propagation delay time, EVEN/$\overline{ODD}$ to PARITY $\overline{ERROR}$	t_{PLH3}		V_{CC} = 5.0 V	9	4.5	11.5	ns
			V_{CC} = 4.5 V to 5.5 V	10,11	4.0	14.0	
	t_{PHL3}		V_{CC} = 5.0 V	9	4.5	12.5	
			V_{CC} = 4.5 V to 5.5 V	10,11	4.0	16.5	
Propagation delay time, B_n to $\overline{ERROR}$	t_{PLH4}		V_{CC} = 5.0 V	9	8.0	21.5	ns
			V_{CC} = 4.5 V to 5.5 V	10,11	7.0	26.0	
	t_{PHL4}		V_{CC} = 5.0 V	9	8.0	22.5	
			V_{CC} = 4.5 V to 5.5 V	10,11	7.0	28.0	

See footnotes at end of table.

TABLE I. <u>Electrical performance characteristics</u> - Continued.

Test	Symbol	Conditions -55°C ≤ T_C ≤ +125°C unless otherwise specified		Group A subgroups	Limits		Unit
					Min	Max	
Propagation delay time, PARITY to $\overline{ERROR}$	t_{PLH5}	$C_L = 50$ pF, $R_L = 500\Omega$, See figure 3	$V_{CC} = 5.0$ V	9	6.5	16.0	ns
			$V_{CC} = 4.5$ V to 5.5 V	10,11	6.0	20.0	
	t_{PHL5}		$V_{CC} = 5.0$ V	9	7.5	17.0	
			$V_{CC} = 4.5$ V to 5.5 V	10,11	6.5	21.5	
Output enable time, $\overline{OE}$ to A_n, B_n, PARITY, $\overline{ERROR}$	t_{PZH}		$V_{CC} = 5.0$ V	9	3.0	8.0	ns
			$V_{CC} = 4.5$ V to 5.5 V	10,11	2.5	11.0	
	t_{PZL}		$V_{CC} = 5.0$ V	9	4.0	10.0	
			$V_{CC} = 4.5$ V to 5.5 V	10,11	3.5	13.5	
Output disable time, $\overline{OE}$ to A_n, B_n, PARITY, $\overline{ERROR}$	t_{PHZ}		$V_{CC} = 5.0$ V	9	1.0	8.0	ns
			$V_{CC} = 4.5$ V to 5.5 V	10,11	1.0	9.5	
	t_{PLZ}		$V_{CC} = 5.0$ V	9	1.0	7.5	
			$V_{CC} = 4.5$ V to 5.5 V	10,11	1.0	8.5	

<u>1</u>/   Not more than one output should be shorted at a time and the duration of the short circuit conditions shall not exceed one second.

STANDARDIZED
MILITARY DRAWING
DEFENSE ELECTRONICS SUPPLY CENTER
DAYTON, OHIO 45444

SIZE
A

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REVISION LEVEL

SHEET
8

Case outlines	K and L	3
Terminal number	Terminal symbol	Terminal symbol
1	$T/\overline{R}$	NC
2	A_0	$T/\overline{R}$
3	A_1	A_0
4	A_2	A_1
5	A_3	A_2
6	A_4	A_3
7	V_{CC}	A_4
8	A_5	NC
9	A_6	V_{CC}
10	A_7	A_5
11	ODD/$\overline{EVEN}$	A_6
12	$\overline{ERROR}$	A_7
13	PARITY	ODD/$\overline{EVEN}$
14	B_7	$\overline{ERROR}$
15	B_6	NC
16	B_5	PARITY
17	B_4	B_7
18	GND	B_6
19	GND	B_5
20	B_3	B_4
21	B_2	GND
22	B_1	NC
23	B_0	GND
24	$\overline{OE}$	B_3
25	---	B_2
26	---	B_1
27	---	B_0
28	---	$\overline{OE}$

FIGURE 1.   Terminal connections.

Number of inputs that are high	Inputs			Input/output	Outputs	
	$\overline{OE}$	T/$\overline{R}$	ODD/$\overline{EVEN}$	PARITY	$\overline{ERROR}$	Outputs mode
0, 2, 4, 6, 8	L	H	H	H	Z	Transmit
	L	H	L	L	Z	Transmit
	L	L	H	H	H	Receive
	L	L	H	L	L	Receive
	L	L	L	H	L	Receive
	L	L	L	L	H	Receive
1, 3, 5, 7	L	H	H	L	Z	Transmit
	L	H	L	H	Z	Transmit
	L	L	H	H	L	Receive
	L	L	H	L	H	Receive
	L	L	L	H	H	Receive
	L	L	L	L	L	Receive
Irrelevant	H	X	X	Z	Z	Z

H = High voltage level
L = Low boltage level
X = Irrelevant
Z = High impedance state

FIGURE 2.   Truth table.

STANDARDIZED MILITARY DRAWING DEFENSE ELECTRONICS SUPPLY CENTER DAYTON, OHIO 45444	SIZE **A**		5962-89535
		REVISION LEVEL	SHEET 10
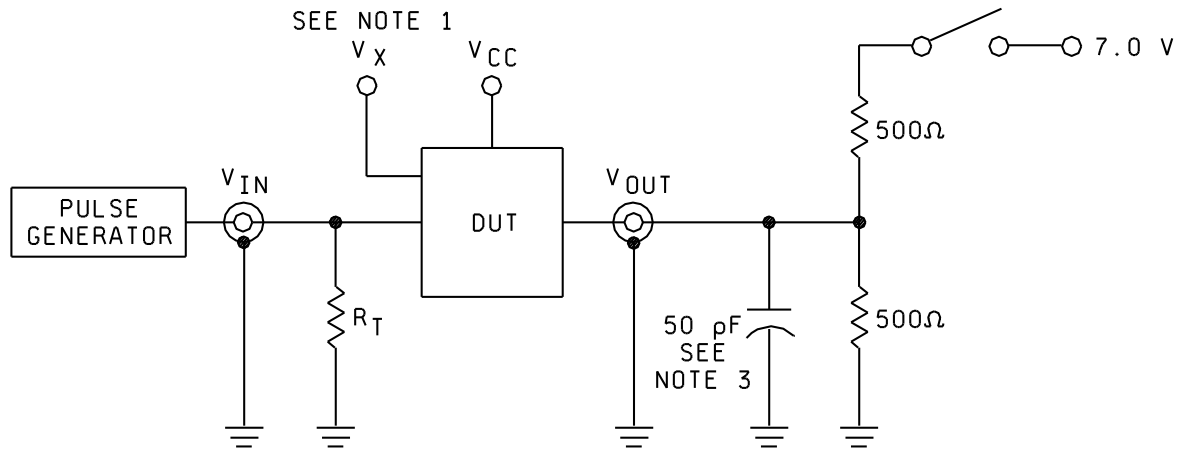
Test	Switch position
t_{PLZ}	Closed
t_{PZL}	Closed
All others	Open

NOTES:
1. V_X = Unused pins must be held at $\leq$ 0.8 V, $\geq$ 2.7 V or open.
2. All input pulses have the following characteristics:
   PRR = 1.0 Mhz, pulse width = 500 ns, duty cycle = 50%, t_r = t_f $\leq$ 2.5 ns.
3. C_L includes jig and probe capacitance.
4. R_T = Termination resistance and should be equal to Z_{OUT} of the pulse generators.

FIGURE 3.   Test circuit and switching waveforms.

PROPAGATION DELAY TIMES

PARITY, $\overline{\text{ERROR}}$

t_{PHL} 1.5 V   1.5 V t_{PLH}

A_n B_n PARITY

ODD/$\overline{\text{EVEN}}$

1.5 V   1.5 V

t_{PLH} t_{PHL}

A_n B_n
PARITY, $\overline{\text{ERROR}}$

1.5 V   1.5 V

V_{OH}
V_{OL}

V_{OH}
V_{OL}

ENABLE AND DISABLE TIMES

$\overline{\text{OE}}$

t_{PZL} t_{PLZ}

3 V
1.5 V
0 V

A_n B_n
PARITY, $\overline{\text{ERROR}}$

1.5 V

t_{PZH} t_{PHZ}

≈ 3.5 V
$V_{OL} + 0.3$ V
V_{OL}

A_n B_n
PARITY, $\overline{\text{ERROR}}$

1.5 V

V_{OH}
$V_{OH} - 0.3$ V
≈ 0.0 V
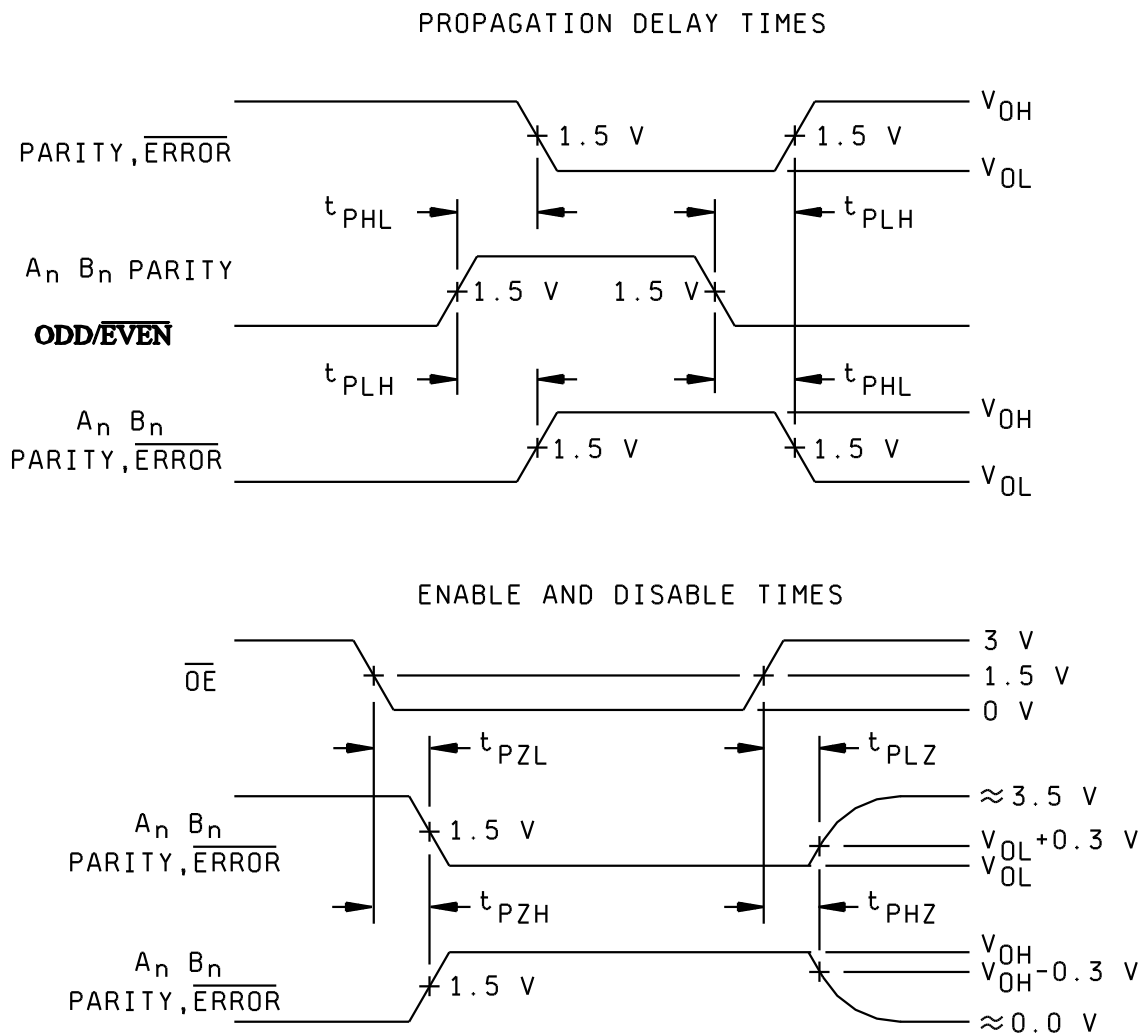
FIGURE 3.   <u>Test circuit and switching waveforms</u> - Continued.

TABLE II. Electrical test requirements.

MIL-STD-883 test requirements	Subgroups (per method 5005, table I)
Interim electrical parameters (method 5004)	---
Final electrical test parameters (method 5004)	1*, 2, 3, 7, 8, 9
Group A test requirements (method 5005)	1, 2, 3, 7, 8, 9, 10, 11
Groups C and D end-point electrical parameters (method 5005)	1, 2, 3

* PDA applies to subgroup 1.

4.3.2 Groups C and D inspections.

a. End-point electrical parameters shall be as specified in table II herein.

b. Steady-state life test conditions, method 1005 of MIL-STD-883.

(1) Test condition A, B, C, or D using the circuit submitted with the certificate of compliance (see 3.6 herein).

(2) T_A = +125° C, minimum.

(3) Test duration: 1,000 hours, except as permitted by method 1005 of MIL-STD-883.

5. PACKAGING

5.1 Packaging requirements. The requirements for packaging shall be in accordance with MIL-M-38510.

6. NOTES

6.1 Intended use. Microcircuits conforming to this drawing are intended for use when military specifications do not exist and qualified military devices that will perform the required function are not available for OEM application. When a military specification exists and the product covered by this drawing has been qualified for listing on QPL-38510, the device specified herein will be inactivated and will not be used for new design. The QPL-38510 product shall be the preferred item for all applications.

6.2 Replaceability. Microcircuits covered by this drawing will replace the same generic device covered by a contractor-prepared specification or drawing.

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6.3 <u>Configuration control of SMD's</u>. All proposed changes to existing SMD's will be coordinated with the users of record for the individual documents. This coordination will be accomplished in accordance with MIL-STD-481 using DD form 1693, Engineering change Proposal (Short Form).

6.4 <u>Record of users</u>. Military and industrial users shall inform Defense Electronics Supply Center when a system application requires configuration control and the applicable SMD. DESC will maintain a record of users and this list will be used for coordination and distribution of changes to the drawings. Users of drawings covering microelectronics devices (FSC 5962) should contact DESC-ECC telephone (513) 296-6022.

6.5 <u>Comments</u>. Comments on this drawing should be directed to DESC-ECC, Dayton, Ohio 45444, or telephone 513-296-8525.

6.6 <u>Approved sources of supply</u>. Approved sources of supply are listed in MIL-BUL-103. Additional sources will be added to MIL-BUL-103 as they become available. The vendors listed in MIL-BUL-103 have agreed to this drawing and a certificate of compliance (see 3.6 herein) has been submitted to and accepted by DESC-ECC. The approved sources of supply listed below are for information purposes only and are current only to the date of the last action of this document.

STANDARDIZED MILITARY DRAWING DEFENSE ELECTRONICS SUPPLY CENTER DAYTON, OHIO 45444	SIZE **A**		5962-89535
		REVISION LEVEL	SHEET 14

DESC FORM 193A
 SEP 87

STANDARDIZED MILITARY DRAWING SOURCE APPROVAL BULLETIN

DATE: 6 NOV 1990

Approved sources of supply for SMD 5962-89535 are listed below for immediate acquisition only and shall be added to MIL-BUL-103 during the next revision. MIL-BUL-103 will be revised to include the addition or deletion of sources. The vendors listed below have agreed to this drawing and a certificate of compliance has been submitted to and accepted by DESC-EC. This bulletin is superseded by the next dated revision of MIL-BUL-103.

Military drawing part number	Vendor CAGE number	Vendor 1/ similar part number
5962-8953501KX	18324	54F657/BKA
5962-8953501KX	18324 27014	54F657/BLA 54F657SDMQB
5962-8953501KX	18324	54F657/B3A

1/ Caution. Do not use this number for item acquisition.
    Items acquired by this number may not satisfy the
    performance requirements of this drawing.

Vendor CAGE number	Vendor name and address
18324	Signetics Corporation 1275 South 800 East Street Orem, UT 84058 Point of contact: 811 East Arques Avanue Sunnyvale, Ca
27014	National Semiconductor Corporation 2900 Semiconductor Drive P.O. Box 58090 Santa Clara, CA 95052-8090 Point of contact: 333 Western Avenue South Portland, ME 04106